

IOCTL_DFN_MAP_BUFFER

Returns an address for the image buffer specified in the current sequence.

IOCTL_DFN_UNMAP_BUFFER

5 Unmaps the specified image buffer in the current sequence.

IOCTL_DFN_DELETE_ALL_SEQUENCES

Deletes all sequences allocated by the driver.

IOCTL_DFN_SET_DETECTOR_WORDSAP

Forces pixel word swapping on a sequence regardless of the default.

10 **IOCTL_DFN_CLR_DETECTOR_WORDSAP**

Forces no pixel word swapping on a sequence regardless of the default.

IOCTL_DFN_RESET

Resets the DFN board firmware.

IOCTL_DFN_RESET_FC

15 Resets the Fiber Channel hardware.

IOCTL_DFN_GET_VERSION_INFO

Returns DFN 304 version and S/N, as well as firmware revision numbers for EP 374 and DAP 372.

IOCTL_DFN_GET_EAB_MEM_SIZES

Returns the size of EAB memory and of the individual queue areas within it.

IOCTL_DFN_WRITE_EAB_MEMORY

Data can be written to EAB memory 474 with this command.

5 IOCTL_DFN_READ_EAB_MEMORY

Data can be read from the EAB memory on EP 374 with this command.

IOCTL_DFN_PROGRAM_DFN_CARD

10 Programs EAB memory 474 with code from the user generated COFF file.

IOCTL_DFN_VERIFY_DFN_CARD_PROGRAM

Returns the code in EAB memory 474 that was programmed previously.

IOCTL_DFN_GET_GEN_DATA_CFG

15 Returns configuration settings for the Test Image Generator circuit on DFN 304.

IOCTL_DFN_SET_GEN_DATA_CFG

Sets specified configuration settings for the Test Image Generator on DFN 304.

20 IOCTL_DFN_BEGIN_ACQ_SEQUENCE

Starts the event queue and begins data acquisition.

IOCTL_DFN_ABORT_SEQUENCE

Stops the currently running DFN acquisition before an EndQ is received.

IOCTL_DFN_SET_AUTOSCRUB_DELAY

Sets the delay between consecutive autoscrub requests in 2 μ sec clock ticks.

IOCTL_DFN_GET_AUTOSCRUB_DELAY

Returns the delay between consecutive autoscrub requests in 2 μ sec clock ticks.

IOCTL_DFN_ENABLE_AUTOSCRUB

Turns on the autoscrub circuit on DFN 304.

IOCTL_DFN_DISABLE_AUTOSCRUB

Turns off the autoscrub circuit on DFN 304.

IOCTL_DFN_CONFIG_RTБ

Sets the default state and driver direction for the real time bus on DFN 304.

IOCTL_DFN_READ_RTБ

Returns the current state of the real time bus lines including the default and direction settings.

IOCTL_DFN_WRITE_RTБ

Writes data to the real time bus 379 in the State/Mask format used by the Event Queue.

IOCTL_DFN_GET_MODE

Returns the current state (Normal, Run, Diagnostic) of EP state machine.

IOCTL_DFN_SET_MODE

5 Sets the current state (Normal, Run, Diagnostic) of EP state machine.

IOCTL_DFN_GET_HOST_FLAGS

Reads host flags from the event queue.

IOCTL_DFN_SET_WAIT_HOST_FLAG

Block while waiting for the specified Host Flag from the event queue.

10 **IOCTL_DFN_CLR_ALL_HOST_FLAGS**

Clears any outstanding Host Flags or Host Flag requests.

IOCTL_DFN_ACCESS_LOCAL_BUS

Read or write the DFN local bus is while the card is in Diagnostic mode.

15 **IOCTL_DFN_SEND_DETECTOR_CMD**

Send commands directly to the detector while in Diagnostic mode.

IOCTL_DFN_SEND_DFN_CMD

Bypass the driver to Execute a DFN command directly in Diagnostic mode.

20 **IOCTL_DFN_SET_TRACE_LEVEL**

Sets the debug trace level which controls printing of trace messages by the kernel debugger.

IOCTL_DFN_GET_TRACE_LEVEL

5 Returns the debug trace level controlling printing of trace messages by the kernel debugger.

IOCTL_DFN_BUGCHECK

Force a system crash in order to generate a crash dump for analysis.

IOCTL_DFN_SET_BREAK_FLAG

Causes driver checked version to break on entry to every function.

10 IOCTL_DFN_CLEAR_BREAK_FLAG

Causes driver checked version to NOT break on entry to every function.

IOCTL_DFN_DUMP_HEAP_LIST

15 Dumps information of free memory heap and sequence memory usage to an output file.

IOCTL_DFN_SET__LEDS

Turns DFN LEDs on or off independently according to the specified state.

IOCTL_DFN_GET_BASE_ADDRESSES

20 Returns kernel virtual addresses so user application can access DFN memory space directly.

IOCTL_DFN_FREE_BASE_ADDRESSES

Releases the specified kernel virtual addresses.

IOCTL_DFN_DUMP_DFN_MEMORY

Writes a section of DFN memory to a file.

IOCTL_DFN_MAP_PHYS_ADDR

- 5 Maps a physical address to a user virtual address; used to access RAM above MAXMEM.

IOCTL_DFN_UNMAP_PHYS_ADDR

Release the specified user virtual address.

IOCTL_DFN_READ_DFN_ADDR

- 10 Attempts to read the DFN board at the offset given in the input argument.

IOCTL_DFN_WRITE_DFN_ADDR

Attempts to write a value to the DFN board at the offset given in the input argument.

- 15 IOCTL_DFN_GET_FC_LOOPBACK

Returns the state of Fiber Channel loopback; 0=loopback disabled, 1=loopback enabled.

IOCTL_DFN_SET_FC_LOOPBACK

- 20 Enables or disables Fiber Channel loopback; 0=loopback disabled, 1=loopback enabled.

As this invention may be embodied in several forms without departing from the spirit or principal characteristics thereof, the present embodiments are

therefore illustrative and not restrictive. Those skilled in the art will appreciate that changes may be made to these embodiments without departing from the principles and spirit of the invention. Accordingly, the scope of the invention is defined by the appended claims rather than by the description preceding them, and all changes that

5 fall within the metes and bounds of the claims, or equivalents of such metes and bounds thereof, are therefore intended to be embraced by the claims.